

REMARKS

This responds to the Office Action mailed on April 28, 2005. Reconsideration is respectfully requested.

Claims 1, 2, 6 – 8, 10 – 12, 15 – 20, 23 and 24 are amended, no claims are canceled, and no claims are added; as a result, claims 1 – 30 remain pending in this application.

Allowable Subject Matter

Claims 26-31 were allowed.

Claims 2, 3, 5-10, 13, 14, 17, 18, 20-22, 24 and 25 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 2 and 10 have been rewritten in independent form including all of the limitations of the base claim 1 and are believed to be in condition for allowance. Claims 12 and 15 has been amended to be dependent on claim 10. Claims 3, 5, 9, 12, 13, 14 and 15 are also believed to be allowable at least because of their dependence on either claim 1 or claim 10.

Claims 17 and 18 have been rewritten in independent form including all of the limitations of the base claim 16 and are believed to be in condition for allowance.

Claim 20 has been rewritten in independent form including all of the limitations of the base claim 19 and is believed to be in condition for allowance. Claims 21 and 22 are believed to be allowable at least because of their dependence on claim 20.

Claim 24 has been rewritten in independent form including all of the limitations of the base claim 23 and is believed to be in condition for allowance. Claim 25 believed to be allowable at least because of its dependence on claim 20.

Claims 12 and 15 has been amended to be dependent on claim 10. Claim 10 is believed to be allowable. Claims 12 and 15 are also believed to be allowable at least because of their dependence on claim 10.

Claim 6 has been amended to be dependent on claim 1. Claims 7 and 8 depend from claim 6. Claims 1 and 6 - 8 is discussed below.

§102 Rejection of the Claims

Claims 1, 4, 12, 15, 16, 19 and 23 were rejected under 35 USC § 102(b) as being anticipated by Pett et al. (U.S. 5,382,959).

Applicant's claim 1, for example, is directed to an antenna that includes first, second and third conductive layers. The first conductive layer comprises one or more parasitic patches, the second conductive layer comprises a plurality of radiating patches, and the third conductive layer comprises a ground patch. The first, second and third conductive layers are separated by first and second substrate layers. Independent claims 1, 16, 19 and 23 have been amended to recite that at least one grounding point electrically couples at least one of the radiating patches to the third conductive layer by a conductive path provided through the second substrate layer. Applicant submits that the cited art does not teach, suggest or motivate the use of a grounding point to couple radiating patches to ground. An example of this is illustrated in Applicants' FIG. 1A showing grounding point 126 on the radiating patches coupled to ground patch 134 by conductor 128. Applicants FIG. 1C illustrates some example locations of ground points 126.

Pett discloses an antenna array with driven radiators M, N and O of subarray 68 (see Pett FIG. 5). The driven radiators M, N and O of Pett couple to signal feed point 72 (see Pett column 11, lines 44 – 54 and FIG. 5). Pett states that signal feed point 72 is the center conductor of a coaxial connector. The ground of Pett's connector couples to grounding surface 62, which is the bottom layer (see Pett column 11, lines 53 – 55 and FIG. 5). There is no connection between Pett's driven radiators M, N and O and grounding surface 62. The operation of driven radiators M, N and O of subarray 68 is illustrated in FIG. 6 of Pett which shows that driven radiators are driven by signals that are 90 degrees out of phase by two feed points. One feed point is on one side of the square patch and the other feed point is on the orthogonal (adjacent) side of the square patch (see Pett column 12, lines 50 – 66 and FIG. 6).

In view of the above, Applicants submit that Pett does not anticipate Applicants' claimed invention as recited in amended independent claims 1, 16, 19 and 23.

Claim 4 is believed to be allowable at least because of its dependence on claim 1.

Claim 6 has been amended to be dependent on claim 1. Claims 7 and 8 depend from claim 6. Claims 6, 7 and 8 are believed to be allowable at least because of their dependency on claim 1.

Claim 6, as amended, further recites that the radiating patches have more than one grounding points. Claim 7, as amended, further recites that the radiating paths together have a single feed point for all the radiating patches of the plurality. As discussed above, Pett disclosed each patch having two feed points. Pett teaches away from the use of a single feed point by requiring that the signals of the two feed points be 90 degrees out of phase.

§103 Rejection of the Claims

Claim 11 was rejected under 35 USC § 103(a) as being unpatentable over Pett et al. in view of Fukuura et al. (U.S. 6,556,169). Claim 11 has been amended to be dependent on claim 10. Claim 10 is believed to be allowable. Claim 11 is also believed to be allowable at least because of its dependence on claim 10.

The drawings have been objected to by the Draftsperson under 37 C.F.R. 1.84. Formal drawings are included herewith. Applicants submit that the objection to the drawings has been overcome.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. Reconsideration of the application is respectfully requested. The Examiner is invited to telephone Applicants' attorney, Greg Gorrie at (480) 659-3314, or Applicants' below-named representative to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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6.24.05*

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 24 day of June 2005.

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Name

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